

Exhibit 23

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JEDEC MANUAL

JEDEC Manual of Organization and Procedure

JM21V

(Revision of JM21U, December 2022)

NOVEMBER 2023

JEDEC SOLID STATE TECHNOLOGY ASSOCIATION



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Published by
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Suite 240 South
Arlington, VA 22201-2107

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(From JEDEC Board Ballot JCB-02-31A, JCB-04-75, JCB-04-89, JCB-05-60, JCB-05-103, JCB-05-124, JCB-05-99C, JCB-06-02, JCB-06-36, JCB-08-11, JCB-09-65, JCB-09-73, JCB-09-82, JCB-09-86, JCB-10-15, JCB-10-21, JCB-10-88, JCB-12-38, JCB-13-46, JCB-13-47, JCB-15-14, JCB-17-24, JCB-19-04, JCB-19-27, JCB-20-14, JCB-20-15, JCB-21-26, JCB-21-65, JCB-21-66, JCB-22-44, JCB-22-53, JCB-23-04, JCB-23-29, JCB-23-38, and JCB-23-39, formulated under the cognizance of the JEDEC Board of Directors.)

1 JEDEC

JEDEC is an independent incorporated Association governed by a Board of Directors (Board). The Association facilitates standardization within the solid-state, microelectronics, and associated industries, and other related activities through special purpose committees.

The Association and its members are committed to foster open competition in the development of products and services.

1.1 Mission

The mission of JEDEC is to serve the solid state industry by creating, publishing, and promoting global acceptance of standards, and by providing a forum for technical exchange on leading industry topics.

1.2 Scope

The scope of JEDEC includes but is not necessarily limited to areas relating to (1) solid state devices, (2) integrated circuits, (3) electronic modules and associated electronic components, and (4) various manufacturing functions/processes.

1.3 Membership

Any company, organization, consumer, or individual conducting business that itself or through a related entity manufactures electronic equipment or electronics-related products, or provides electronics or electronics-related services, shall¹ be eligible for membership in JEDEC. Membership on a given committee shall be open to any JEDEC member company in good standing dependent solely on the dues structure defined by the Board². Government representatives may also participate as described in 2.4.

Each member company, organization, or individual shall be entitled to appoint one member and multiple alternates for each committee it joins. The member and alternates should be capable of making a technical contribution to the standards-setting process of the committee. To preserve the “one-company one-vote” concept within JEDEC, wholly-owned or majority-owned subsidiaries shall not be granted separate voting privileges within any single committee or subcommittee. The JEDEC Office shall maintain a list of all member companies and representatives for each committee.

¹ Special word usage. The word “shall” indicates a requirement; see JM7, Annex J.

² JEDEC membership is not a prerequisite to committee participation. Non-member participation fees will be charged. Before attending a JEDEC meeting, guests and non-members must agree to comply with all JEDEC rules and procedures, including the rules and procedures set forth in this Manual. Further details are available from the JEDEC Office. See 3.4.

1.3 Membership (cont'd)

All changes in committee membership shall be the responsibility of the member company, who shall so advise the JEDEC Office and the committee chairperson in writing or by electronic means.

NOTE Government regulations restrict the participation of non-U.S. Nationals at certain meetings. Every effort shall be made to notify member companies, well in advance, when a meeting will cover restricted topics.

1.4 Board of Directors

The governing body of JEDEC is the JEDEC Board of Directors (Board) which is comprised of individual Directors (or their alternates) representing JEDEC member companies.

1.4.1 Eligibility

Any maximum dues paying Member Company of JEDEC, having an identified representative in two or more committees for at least the past two consecutive years, may nominate one candidate for Board membership. The nomination consists of the nominee's resume accompanied by a letter from a company executive to the Board chairperson (in care of the JEDEC Office). The support letter is to request that the nominee be considered for Board membership and committing that if elected the member company will support the nominee's active attendance and participation in JEDEC Board meetings and affairs. If the application meets the above requirements, the JEDEC Office will hold the application on file with other (qualified) nominees. The JEDEC Office will maintain an official list of nominations to the Board. A list of the current Board Committees with a brief description and the membership of each will be sent to the nominee with an invitation for the nominee to participate where he/she has interest.

Seats on the Board are occupied by Directors representing individual JEDEC Member Companies. Once elected to a Seat on the Board, the Member Company maintains its position until the seat is voluntarily relinquished or forfeited due to other events as outlined in 1.4.4. Mergers, divestitures, acquisitions and other corporate changes that do not substantially alter the nature of a member company will not be grounds to forfeit a seat on the Board so long as the new entity continues to meet all Board Eligibility Requirements, see 1.4.3.

The total number of Directors shall not exceed thirty (30).

1.4.2 Election of Directors

The Membership Committee consists of not less than five (5) members. Any Board member is eligible for membership. The chair of the Membership Committee is appointed by the Chairman of the Board.

The Committee will evaluate the addition of new member companies and individual representatives to the Board consistent with the process described in this section. The process begins with a standing agenda item to discuss the topic of Board membership at each Q3 Board meeting. Should the Board make the decision to open the application process at that time, a well-defined, scheduled process will ensue that includes:

- (1) notification to the membership;
- (2) submission of application forms by candidates;
- (3) review by the Membership Committee;
- (4) a recommendation from the Membership Committee to the Board at the Q4 Board meeting.

1.4.2 Election of Directors (cont'd)

The application form and the Membership Committee's review will focus on these criteria:

Potential Board member companies. International impact, company influence, ecosystem development, commitment to standardization.

Potential individual representatives. Self-behavior, JEDEC experience, industry experience.

The Board will act on the recommendations of the Membership Committee. New Board member companies/individuals will be elected by a 75% majority of the Board members voting at the meeting. There is no requirement that the maximum of 30 seats be filled.

The Board secretary will send a response letter to each elected company and individual candidate and inform them of their responsibilities. The Board secretary will also notify the unsuccessful applicants. Elected members of the Board are expected to actively serve on one or more of the Board Committees.

1.4.3 Board Representation Changes

The following outlines events that may occur that affect Board Representation.

1.4.3.1 Merger

Two companies on the Board merge or consolidate:

- It is up to the new surviving company (or the new parent company) to decide which Board representative remains on the Board to comply with the "one vote per company" rule.

1.4.3.2 Acquisition

One Board company acquires another Board company:

- It is up to the acquiring company to decide which Board representative remains on the Board to comply with the "one vote per company" rule.

A Board company acquires a non-Board company:

- The Board company can elect to nominate a different Board representative if it wishes, but final approval is still required by the Board.

1.4.3.3 Merger or Acquisition by Non-Board Company

A non-Board company merges with or acquires a Board company:

- If the non-Board company is eligible for Board membership (ref. 1.4.1), it can assume the Board seat of the acquired company subject to Board approval.
- If the non-Board company is not eligible for Board membership, it cannot assume the Board seat of the acquired company and the Board seat is considered open.

1.4.3 Board Representation Changes (continued)

1.4.3.4 Split

A Board company splits into two or more companies:

- If the Board representative associated with the split (or spun-off subsidiary) is still employed by the member company then his/her status is unchanged.
- If the Board representative associated with the split is now a member of the new (or non-member) company then representative in question loses his/her seat.
 - Exceptions: Board decides that the Board representative in question is vital to the Board and the new member company complies with all JEDEC requirements to be on the Board.
- The member company that still has a seat on the Board can nominate a new representative to the Board who is then subject to Board approval.

1.4.4 Member company and Director resignation

The Director will relinquish a position on the Board in the instance of any of the following events:

- 1) The Member Company formally resigns the position. This includes a statement from the Member Company that confirms the Director and Member Company resignation.
- 2) The Member Company which the Director represents is no longer eligible as defined in 1.4.1.
- 3) The Member Company is removed by a majority vote of the Board for gross violation of JEDEC policy.
- 4) The Director is absent from and not represented by a Member Company's approved alternate at two consecutive Board meetings. It is the expectation that Directors attend all Board meetings, at minimum Directors must attend at least one face-to-face Board meeting, in person, each calendar year.

In the event that a Director no longer represents the Member Company for which the individual was elected (including but not limited to retirement or change of employment) or should the Director be removed due to gross violation of JEDEC policy outside of the control of the Member Company, then the Board seat shall not be considered vacated and the Member Company shall have the right to maintain its position on the Board by nominating a replacement Director. The replacement Director must meet all nomination requirements as set forth in 1.4.1 and be elected by the full Board by a 75% majority of the Board members voting at the meeting. Should the replacement Director fail to be elected, the Member Company may submit a second candidate and repeat the process.

1.4.5 Officers of the Board of Directors

The officers of the Board shall follow the same guidelines as the officers of a committee with the following exceptions: There shall be at least one Vice Chairperson on the Board. The number of Vice Chairpersons on the Board shall be determined by regular vote at any regularly scheduled Board meeting.

1.4.6 Board of Directors meetings

All meetings of the Board shall follow the same procedures and guidelines as outlined for regular committee meetings, with exceptions per 1.4.6.1, 1.4.6.2, and 1.4.6.3.

1.4.6.1 Board of Directors executive session

The needs of the Association occasionally require the Board to meet in executive session. Such executive sessions are to be defined as closed meetings of Board member company representatives and guests invited for specific purposes only.

1.4.6.2 Board of Directors voting

All actions within the Board require an affirmative vote of at least 75%; members abstaining shall not be considered for determination of the 75% criterion. When defined and agreed to by a duly recorded vote of the Board, specific action may require polling of all members whether present or not and/or may require a higher percentage affirmative vote.

1.4.6.3 Emergency action by the Board of Directors

If action normally requiring Board consideration must be taken, and a meeting cannot be reasonably convened, then the following modifications apply to the approval process: 1) A reasonable attempt must be made to notify 100% of Board members, and 2) The decision shall become binding only upon receipt by the JEDEC Office of affirmative votes from 75% of the members of the Board.

1.4.7 Board of Directors guest policy

All guests must be approved by the chairman and must have a purpose related to the topics of discussions at the Board meeting. The guest must be introduced to the Board at the meeting and the purpose of the guest's visit should be stated in the agenda for that meeting.

At the discretion of the Board, a guest may be allowed to stay beyond the allotted time slot if the Board feels there is a need for that guest's continued attendance. Otherwise, all guests may only attend the portion of the Board meeting that is directly related to their purpose in the meeting. At no time may a guest speak to the Board beyond the intended purpose of his/her invitation without the explicit approval of the Board.

At any time, any member of the Board may request that the chairman, at his discretion, ask a guest to leave the meeting.

1.5 Governance/Interpretation

The Board shall have the sole authority to interpret, in whole or in part, these operating procedures. In any case where conflict arises from ambiguity, or lack of specificity, or misunderstanding within or related to this document, the officers of the Board of the Association may make temporary rulings to be confirmed or modified at or before the next regularly scheduled Board meeting by vote of the Directors. In any case where there is not agreement between 100% of the officers of the Board concerning an interpretation, then the matter must be referred to the entire Board for resolution.

1.6 Scope of participation

The standards development process shall not be dominated by any single interest category, individual, or organization. Dominance means a position or exercise of dominate authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints.

The standards development process should have a balance of interests. Participants from diverse interest categories shall be sought with the objective of achieving balance.

NOTE In the case of an ANSI American National Standard, JEDEC shall comply with the criteria for balance as contained in ANSI Essential Requirements.

1.6.1 Interest categories

For a formulating group to work effectively, all interest categories should be represented, and no interest category shall be intentionally excluded. Because standards development depends on consensus rather than the will of a majority, participation in the consensus-building process is of far greater significance than the final act of voting in a formulating group. Unless it is claimed by a directly and materially affected interest that a single interest category dominated the standards development process, no test for dominance is required.

Interest categories are defined relative to each standards activity: producer; user; and general interest. See ANSI Essential Requirements for further information.

1.6.1.1 Producer

Producers are formulating group members that manufacture electronic equipment or electronics-related products covered by the standard.

1.6.1.2 User

Users are members that utilize electronic equipment or electronics-related products covered by the standard to provide services to an end user.

1.6.1.3 General interest

General Interest members are neither producers nor users. This category includes, but is not limited to, regulatory agencies (state and federal), researchers, other organizations and associations, end users and consumers.

1.7 Limits and restrictions

The Members (particularly where they are direct competitors in certain lines of business, and including their employees and representatives), shall, when engaged in the activities and affairs of the Association, act in a manner that does not violate any state, federal or international laws or regulations.

Member companies must abide by all applicable export control regulations of their respective countries while attending a JEDEC meeting, irrespective of where the meeting is actually held. It is recommended that the member seek guidance from his or her company if involved in "state of the art" engineering work, as significant changes are made to the export control regulations from time to time.

The Association prohibits any discussion on specific costs, prices, quantity or yield of production levels, methods or channels of distribution, markets, customers or any other topic, or any conduct that may be construed as a violation of antitrust laws. Each respective member company shall advise its respective participant representatives and employees on the importance of compliance with applicable state, federal or international antitrust laws or regulations and require the scope of any discussions or exchanges amongst representatives of Members and/or the Association, be limited to the mission and scope of the Association stated above.

1.8 Modifications to the Manual of Organization and Procedure

Modifications to this manual may be made in whole or in part, upon approval by the Board by the normal ballot process. Any changes to this Manual shall be distributed to the JEDEC membership at the earliest possible time upon adoption.

2 Committees

The Board shall have the authority to establish committees to perform any task(s) for the association. JEDEC committees (main and sub) shall be authorized only by the Board, and the Board shall approve the scope of each³. A main committee shall be designated by the prefix JC- plus a two-digit designator, such as committee JC-11. Main committees are separated into two types: (1) service committees, whose scope is limited to a specific subject that may impact several product types, and (2) product committees, whose scope is limited to a specific type product. For service committees, the first digit of the two-digit designator shall be the number 1, and for product committees, the first digit shall be the number 2 or higher.

When the main committee finds it necessary to divide its work into parts, subcommittees may be formed under the scope of the main committee and such subcommittees shall be designated by adding a period to the main committee number followed by a number or a number-and-letter designator (e.g., JC-42.3 or JC-42.3B).

Subcommittees shall have all the same authority and responsibilities as committees herein defined, except that a subcommittee scope shall be a subset of a committee scope, to be authorized, reviewed, and approved by the Board.

NOTE Participation shall be open to all persons who are directly and materially affected by the activity in question.

2.1 Committee responsibilities

Each committee shall have the authority to consider all matters within its approved scope, including but not limited to the following actions:

- a) Develop proposed standards, guidelines, registrations, and related technical publications for committee ballot.
- b) Authorize committee ballots on all matters within the committee's defined scope.
- c) Initiate proposals for Board ballots of previously approved committee ballots.
- d) Evaluate the results of all committee ballots, as well as comments on related Board ballots.
- e) Request approval of the Board to convert standards or publications into ANSI or IEC standards.
- f) Maintain liaison with other national and international organizations.
- g) Initiate press releases to announce a significant advancement in the work of solid state technology covered within the committee scope such as: registrations, standardization, or publication. All press releases are to be issued by the JEDEC Office after review and concurrence by the JEDEC Legal Counsel.

³ The committee scope shall go through the standard balloting process and must be completed within a reasonable timeframe and prior to any publication of a JEDEC document authored by the committee.

2.2 Executive committee

A JEDEC committee or subcommittee may form an executive committee to manage its administrative work. The executive committee shall meet the following criteria:

- a) The executive committee should be chaired by the committee or subcommittee chairperson and shall include as a minimum all chairpersons and vice chairpersons of that committee and its subcommittees.
- b) Meetings of the executive committee shall be open to any committee member who gives reasonable advance notice to the executive committee chairperson or secretary.
- c) Actions of the executive committee shall be limited to handling administrative matters dealing with such items as meeting schedule, meeting agenda, future meeting dates and locations, personnel requirements, proposed work priorities, and the like. Any decision made by the executive committee is subject to review and modification by the full committee at the request of any committee member or alternate. Decisions on the final disposition of all technical matters shall be made only by the overseeing committee. Recommendations concerning future meeting dates and locations should be presented to the overseeing committee.

2.3 Election of officers

All JEDEC committee officers shall be members or alternates of their respective committees. All JEDEC committees shall have a chairperson and may also have a vice chairperson as officer(s) of the committee. All officers shall be directly elected either by secret vote of the committee members present during a regular meeting or by ballot as determined by vote of the committee. Committee officers shall serve a term of two (2) years. The JEDEC staff shall count the secret ballot and announce the result at the meeting.

At least two meetings prior to the end of a chairperson's term, he/she shall appoint a nominating committee to propose candidates to fill the next term of office(s) for the committee. The committee's candidates must be presented to the full committee at the next meeting and nominations from the floor shall also be accepted. All nominees must agree to accept the additional responsibilities before they can be considered.

If any of the officers cannot fulfill his/her term then elections shall be held at the earliest opportunity of the committee members. Similarly, if a new committee is formed, then the chairperson shall be selected by vote of the members attending the first meeting as a first order of business of the committee. These special case elections shall become effective immediately.

2.4 Government entities

JEDEC desires and encourages the active participation in its standards-developing activities of all parties having a direct and material interest in the standards, including U.S. federal, state, and local government entities when they have such a direct and material interest via the JC-13 Committee, Government Liaison.

Contribution to the standards development process may take the form of liaison with appropriate formulating groups, participation in the ANSI public review process, and active participation in formulating groups.

3 Meetings

Communication between JEDEC member companies is essential for the work within the Association. All committees shall hold regular meetings for the purpose of conducting JEDEC business.

The use of teleconference or other electronic conferencing equipment is permitted for any type of JEDEC meeting.

3.1 General requirements

Every JEDEC meeting, regardless of type, shall be held in accordance with the directives contained within this manual and in accordance with all applicable laws.

All meeting notices, agendas, ballots, and minutes shall be distributed only by the JEDEC Office. All correspondence from the JEDEC Office shall only be by electronic means unless otherwise required by law. If a company requests distribution by other means, the JEDEC Office will charge a fee for such additional service as directed by the JEDEC Board. The JEDEC website, www.jedec.org, shall be the primary method of electronic communication.

3.2 Notices

Notices of regular meetings shall be distributed solely by the JEDEC Office no less than 28 calendar days prior to the start of such meeting, unless a “special” meeting is authorized by committee vote and the date and agenda for such meeting is fixed at a regularly scheduled meeting. Notices of such special meetings shall be distributed as soon as possible after said regular meeting and in no case less than 10 calendar days prior to the start of such special meeting.

3.3 Agendas

All meetings shall have prepared agendas distributed as soon as possible, but in no case less than 10 days prior to a meeting and should be included with the meeting notice if possible. All special meeting notices shall include the agenda at time of distribution of such notice.

3.4 Meeting attendance

All JEDEC committee and subcommittee meetings are open to members, their designated alternates, and guests invited by the committee or subcommittee chairperson.

A JEDEC staff member or a designated alternate must participate in every committee meeting, either in person or by electronic means. The duties of the staff person shall include but not be limited to taking minutes, advising the chairperson regarding the content of this manual and JEDEC legal policies and guidelines, and distributing the minutes. JEDEC staff attendance is not required at every subcommittee meeting.

A potential new member company may be a guest for one meeting with prior approval of the chairperson. A timely submission of such a request stating the purpose of attendance shall be given so that appropriate accommodations can be made. If there are any issues to be raised by a guest, those issues must be specified in the purpose statement.

Nonmembers may participate in committee meetings if they pay a nonmember participation fee, the fee shall be predetermined, fixed, and reasonable. A procedure for requesting a fee waiver or fee reduction shall be available. Nonmembers do not have the right to vote. Nonmembers should contact the JEDEC Office prior to the meeting date for further details.

Before attending a JEDEC meeting, guests and non-members must agree to comply with all JEDEC rules and procedures, including the rules and procedures set forth in this Manual.

An individual representative may represent only one company at any committee, subcommittee or task group meeting, and may vote on behalf of only one company on any ballot placed on the electronic voting machine. It is the responsibility of the committee chairman to enforce this rule during a committee or subcommittee meeting. For the electronic voting machine, it is the responsibility of the ballot sponsor to enforce this rule when the ballot tally is reported.

3.5 Quorum

The JEDEC Office shall maintain a list of active members for the sole purpose of determining the quorum requirements for a committee meeting. An active member is defined as a member company that has been represented at either or both of the previous two consecutive regular meetings of the committee. Special meetings shall not be considered for the purpose of determining “active” member status. The quorum requirements shall be 50% by count of a committee’s active member list, but in no case shall the quorum requirement be greater than 12 member companies regardless of committee size. All committee member companies present at a meeting are counted toward quorum requirement.

3.6 Recording devices

Voice or video recording devices of any kind are forbidden at any type of JEDEC meeting.

3.7 Minutes

The principal activities and attendees at all JEDEC meetings shall be duly recorded in meeting minutes. Meeting minutes shall be taken by the assigned JEDEC staff for that committee or by a substitute designated by the JEDEC staff. In the absence of a JEDEC staff person at a committee meeting, a temporary secretary may be assigned by the committee chairperson.

Minutes shall be termed “unconfirmed” until reviewed and confirmed by the committee chairperson and JEDEC Legal Counsel. In the interest of member company needs, minutes should be distributed to members and alternates within 14 calendar days after a meeting. If the chairperson is unable to review and confirm the minutes within that time, the JEDEC Office should distribute the unconfirmed minutes clearly labeled as unconfirmed minutes. Unconfirmed minutes shall be approved by JEDEC Legal Counsel prior to distribution. Confirmed meeting minutes from regular meetings shall be distributed no later than 28 days prior to the next regular meeting. Confirmed minutes from “special” meetings should be distributed as soon as possible after such special meeting and in no case less than 10 days prior to the next regular meeting.

At the end of each set of minutes the following statements shall appear:

“Reviewed/corrected and authorized for release” followed by the Chairperson’s and Secretary’s name and date.

Chairperson, Name / date

Secretary, Name / date

Confirmed Legal Approval Date

“This meeting was conducted in accordance with JEDEC Legal Guides and the JEDEC Manual of Organization and Procedure.”

For those situations where a report from an independent group is included in the minutes, for information purposes, then the following disclaimer may be added to the minutes:

“Disclaimer: All liaison, government, technical, and task group reports contained herein are believed to be accurate but the accuracy or completeness thereof is not guaranteed.”

Minutes of a task group meeting shall include a list of the attendees, the meeting agenda, a status review of the agenda items, and any final proposals including discussion related to the proposals. The time, the place, and any required follow-up should be included. Task group minutes are reported and approved as part of the minutes for the next meeting of the sponsoring committee.

3.7.1 Policy statement on JEDEC sign-in/attendance rosters

The policy statements reproduced on the reverse side of the JEDEC sign-in/attendance rosters shall become an integral part of the minutes of all committee, subcommittee, and task group meetings; and a statement shall be included in the minutes indicating compliance with the foregoing policy.

3.8 Regular meetings

Every JEDEC committee shall set up an annual calendar for regular meetings at which any item covered under the scope of the committee may be discussed. Under the JEDEC guidelines, committees must hold at least one (1) regular meeting each year to retain status as an active committee.

3.9 Special (Limited Scope)

All JEDEC committees shall have the authority to approve meetings of limited scope. Schedule for the meeting and specific agenda items must be approved by formal vote during a regular committee meeting. During a limited scope meeting, no other committee business shall be conducted outside of the specific items on the previously agreed to agenda. Items shall not be added to the agenda of a special meeting.

3.10 Joint meetings

3.10.1 Between JEDEC committees

Joint meetings between two or more JEDEC committees may be authorized by agreement of the committees by vote. Selection of the joint meeting chairperson shall occur by vote of the committees' attendees. The joint chairperson shall ensure that all meeting notices, agendas, and minutes are distributed to the relevant JEDEC committees.

3.10.2 Between JEDEC and any non-JEDEC organization

Joint meetings between a JEDEC committee and any non-JEDEC organization are subject to the same requirements as 3.10.1. In addition, JEDEC Legal Counsel shall establish a Memorandum of Understanding (MoU), see 3.10.3, between the organizations and review all release of information from the meetings to any outside person or organization.

JEDEC committees may meet jointly with other organizations or agencies for the purpose of permanent or ongoing liaison. In these cases, those nonmembers attending the committee meeting are expected to pay their proportionate part of the total meeting costs. Apportionment of the meeting costs shall be agreed upon between the committee chair and the representatives of those groups participating in the meeting(s), subject to the approval of the JEDEC Board.

3.10.3 Memorandum of Understanding (MoU) with any non-JEDEC organization

Prior to the formation of a joint meeting/task group with a non-JEDEC committee, a Memorandum of Understanding (MoU) must be in effect between JEDEC and the other organization covering the following items:

- a) Balloting procedure (acceptance criteria, resolution of comments, and disapprovals),
- b) Patents procedure (including joint ownership),
- c) Distribution rights (copyright, use of association logos, available on JEDEC website without charge),
- d) Procedures for future revisions of the document(s),
- e) Selection of chairperson(s) and appointment of task group membership, and
- f) Meetings and related legal requirements (notices, agendas, motions, minutes, costs, etc.).

3.11 Task groups

A task group may be authorized by any committee chairperson for a specific non-continuing objective. The task group chairperson, appointed by the committee chairperson, shall be a member or alternate of the overseeing committee. Membership within a task group is open to any member or alternate of the committee within which the task group is formed. In addition, members of the task group may also be appointed by the task group chairperson from nonmember JEDEC companies with approval of the overseeing committee chairperson; appointment shall be based solely on ability to contribute to the work; however, all members of a task group shall conduct their work in accordance with this manual.

A task group is not permitted to hold any formal votes or establish any final results relative to standards, publications, or ballots. All task group activities shall be presented to the overseeing committee for review, modification, and approval in the form of reports generated from every task meeting. By duly recorded committee vote, committees may authorize a task group to issue ballots or other specific tasks as required, the specific exception being that committees cannot authorize a task group to conduct a formal vote. A task group must be dissolved upon completion of its objectives.

Scheduling of task group meetings is subject to approval of the sponsoring committee's chairperson, in order to avoid conflict with regularly scheduled meetings.

3.11.1 Joint task groups between JEDEC committees

Joint task groups between two or more JEDEC committees may be authorized by agreement of the committee chairpersons. Selection of the task group chairperson shall be part of this agreement and that chairperson must be a member or alternate of one or more committees involved in the task group. The task group chairperson shall keep all sponsoring committees on the distribution list for all meeting notices, agendas, and reports. Joint task groups between JEDEC committees shall comply with all other requirements for task groups.

3.11.2 Joint task groups between a JEDEC committee and other organizations

Joint task groups between a JEDEC committee and other non-JEDEC organizations are subject to the same requirements as task groups per 3.11. Unless otherwise authorized by the Board and approved by JEDEC Legal Counsel, such joint task groups shall establish a Memorandum of Understanding (MoU), see 3.10.3, in the same manner as joint committees covered in 3.10.2.

4 Document development procedure

The development of all JEDEC documents shall follow the minimum sequential procedure outlined herein.

Presentations and ballots shall have no more than two (2) sponsors.

- 1) Presentation – initial showing or distribution of material proposed for publication. Presentations may occur at any regular meeting or special meeting if the limited scope and agenda include such information. Presentations may also occur entirely electronically without being at a meeting. An additional showing of material proposed for publication may be required.
- 2) Motion for ballot – may occur at any time after a presentation. The motion must have a second before being considered for vote. The company agreeing to second the motion for ballot should be willing to accept responsibility for sponsoring the material should the original sponsor be unable or unwilling to do so. The motion for ballot should be discussed after receiving a second and then a formal vote shall be taken.
- 3) All committee ballots shall be subjected to the committee’s editorial process prior to being posted on the JEDEC voting machine.
- 4) Committee ballot – if approved, material shall be sent out to ballot through the JEDEC voting machine. Details of balloting procedure are covered in section 6.
- 5) Motion to Board ballot – if a ballot passes and all comments are addressed then a motion may be made to send the material on to the Board for further consideration and approval. Alternatively, the motion to forward the ballot to the Board is unnecessary if the ballot passes by acclamation, see 5.2.
- 6) Board ballot – when approved, the committee material shall be sent out to ballot through the JEDEC voting machine. Board ballots follow the same procedures as committee ballots, see 6.6.1(c). When reviewing material passed by committee, the Board primarily considers whether due process has been followed.
- 7) Publication – once proposed material has successfully completed all the above steps and obtained approval through the appropriate balloting processes, it is approved for publication.
- 8) All JEDEC documents shall be published by the JEDEC Office.

NOTE 1 Steps may be repeated as many times as required to satisfy the wishes of the member companies participating in the process.

NOTE 2 JEDEC Registrations are special-case publications that do not have to be reviewed by the JEDEC Board of Directors, and the registration procedure ends upon the completion of step 4 above.

4.1 Copyrights

JEDEC owns the copyright to all documents created through JEDEC, and use of that copyrighted material is at the sole discretion of the JEDEC Board.

For the protection of member companies, all JEDEC publications and standards shall be copyrighted. As a precaution, draft proposals circulated for comment and/or vote shall display the symbol ©, followed by the year and “JEDEC”. Stapled or bound documents require this designation only on the first page or title page; short documents that may be distributed unstapled shall be so labeled on every page. When final documents are ready for publication, the JEDEC Office shall register the copyright and maintain all appropriate records.

JEDEC member companies may reproduce any JEDEC document for internal use, without restriction. Use of JEDEC material outside of member companies is at the discretion of the Board. Generally, all JEDEC documents are available on the JEDEC website: www.jedec.org.

If, in developing a standard, a publication, or a specification, a committee proposes to incorporate verbatim material from a publication copyrighted by another organization, the committee shall obtain written permission from the owner of the copyright for JEDEC to copy the material. The letter granting permission shall be sent to the JEDEC Office, and the standard or publication shall include a reference to such permission as a footnote.

5 Voting

JEDEC shall formally operate under the rule of “One company, one vote” wherein all formal, binding votes will be restricted to one vote per company. Nonbinding fact-finding “straw” or survey votes are not considered formal votes. Unless specifically authorized by the Board, all approval vote counts within JEDEC shall be a minimum of 2/3 of votes cast. All Board approval vote counts shall be a minimum of 3/4 of votes cast. Abstention votes shall not be considered in the calculation.

Votes taken during committee meetings shall be duly recorded in the meeting minutes, and, except for unanimous votes, the vote count shall be included in those same meeting minutes.

In order to maintain fairness within every committee, the committee chairperson shall refrain from voting during a meeting for all but secret votes. If a chairperson has a specific company position on a topic being discussed, then control of the meeting should be turned over to the vice chairperson or other less biased member. Chairpersons may vote on any ballot to represent his/her company position.

5.1 Ballot voting

The period for voting on committee ballots shall be at least 21 calendar days from the date of issuance, and shall not exceed 90 days. In any case, the ballot closes at midnight, Eastern Time, on the final day of the voting period. All committee ballots shall be processed through the JEDEC electronic voting machine, and shall include the following vote options:

- a) approve, comments are optional with approval
- b) disapprove, comment is required and shall include a full explanation of the reason(s) for the disapproval
- c) abstain, comments are optional with abstain

NOTE All committee ballots shall contain the following patent statement:

“If anyone receiving this ballot is aware of any patents (granted or pending) involving in this ballot, check here and notify the committee, citing the applicable patent numbers.”

No one can have access to the ballot results before the voting period ends. As part of the deliberative, consensus-building process, commenters may send questions to the ballot sponsor independent of their votes via email, telephone, etc.

5.2 Ballot approval by acclamation

A committee ballot is considered approved by acclamation in either of the following two cases:

- a) The ballot is approved unanimously with no comment at the close of the voting period.
- b) The ballot is approved by count at the end of the voting period, and all comments whether from approve, disapprove, or abstain votes are resolved to the satisfaction of the sponsor and the commenting company. If any company is not satisfied with the proposed resolution of a comment, then resolution of the ballot must await committee action.

Any ballot approved by acclamation shall automatically advance to the next level in the publication process (i.e., committee ballots are automatically submitted to the Board, or Board ballots automatically become approved for publication). At the discretion of the committee chairperson, ballots that otherwise meet the requirement for approval by acclamation may be referred back to committee for further action if special conditions exist (e.g., uncharacteristically low vote count for the committee).

6 Ballots

All committee ballots shall be distributed ONLY by the JEDEC Office with Board-approved electronic distribution methods to all committee members and alternates for vote and to all related committees for information and comment. A submission for ballot shall be made through the JEDEC Office ONLY by Board approved editable and non-editable “soft copy” format of the complete ballot content.

Reference to any individual(s) and/or member company name(s) is prohibited from appearing on any committee ballot unless it is part of a return address.

In order to facilitate document identification and retrieval, keywords shall be submitted with all ballots. A keyword is defined as a word, term, or acronym that is descriptive of the essential contents of the ballot or a major portion thereof.

6.1 Editorial changes

During a committee meeting, provided there is no disagreement within the committee that the changes are editorial, these changes may be incorporated into committee-approved balloted material without reballoting.

6.2 Ballot lobbying

Member companies should not lobby or coerce other member companies to approve or disapprove ballots. Open discussion of balloted material is permitted and encouraged, but such discussions should focus on the technical aspects of balloted material.

The use of verbal, physical or business threats, intimidation, harassment or coercion is unprofessional behavior and unacceptable conduct at or in connection with any activity sponsored by JEDEC, including committee and task group meetings.

6.3 Copyrights

See 4.1

6.4 Regular committee ballot

A “regular” ballot is one in which the entire standard, publication, registration, guideline, or specification is open for comment.

Prompt consideration shall be given to the written comments and objections of all participants during the committee balloting process. An effort to resolve all expressed objections accompanied by comments related to the proposal under consideration shall be made, and the disposition of each such comment or objection and the reasons therefore shall be documented in writing (including electronic minutes and ballot material).

6.5 Limited committee ballot

If a limited number of revisions to an existing document are being proposed, a “limited” ballot may be issued. Limited ballots may be restricted to considering only the proposed areas for modification, addition, or deletion. In the cases of limited ballots both the original material and the proposed revisions thereto shall be clearly shown in the ballot material. Examples of appropriate occasions for using limited ballots are (1) a proposal to add a new definition to a long list of definitions or (2) a new package outline to JEDEC Publication No. 95.

On occasion, after a committee ballot has been approved, the committee may wish to propose minor technical changes to the ballot before forwarding the approved material on to the Board for final consideration. In such cases, a motion may be made for a limited ballot in which only these technical changes may be addressed. If the limited ballot is passed, these changes shall be incorporated. If it fails, the original material stands as approved.

NOTE This process is not intended for use in the development of an ANS.

6.6 Board of Directors ballot

In general, all ballots originating at the Board level shall follow the same guidelines outlined in 6.4. Board ballots are restricted in scope to non-technical Association business and specifically may not include new technical for publication creation as such material must first be submitted by the appropriate technical committee.

6.6.1 Committee ballots sent to the Board of Directors

All passed committee ballots relating to proposed JEDEC standards, guidelines, or specifications must be reviewed and approved by the JEDEC Board before becoming official JEDEC publications. Upon approval by acclamation or by committee vote⁴, the originating committee shall submit such passed committee ballot⁵ to the JEDEC Office for distribution as a Board ballot.

All ballots submitted to the JEDEC Board must include the committee ballot material, and:

- a) a brief description of the recent committee background regarding the material.
- b) the complete voting report including the names and votes of the member companies voting and all comments on the material.
- c) a description of the resolution of all of the comments on the material. Negative votes must be addressed, however if they cannot be resolved, the ballot can be submitted to the Board with the approval of the committee.

The Board may make only editorial modifications to any material proposed by committee for further action. Any technical modifications of committee material must be referred back to the originating committee for possible action.

⁴ Unless the committee ballot passes by acclamation, a formal committee vote must be taken and recorded in the minutes to send the committee ballot to the Board for further action.

⁵ Ballot material submitted for a Board ballot must be identical to the ballot material approved by the committee. The committee may authorize an editorial committee to review the document for editorial corrections only prior to issuing the Board ballot. In this situation, the Board ballot must be a marked up version of the committee-approved ballot material, such that all edits are clearly noted.

6.7 Survey ballots

Surveys may be issued to determine whether a proposal warrants further action. A survey may ask for information or for a support/nonsupport position. No committee vote is required for the distribution of a survey ballot; however, every survey must be approved by the committee chairperson and issued by the JEDEC Office following legal approval. The JEDEC Office shall monitor every survey to ensure adherence to JEDEC legal guidelines. Surveys that contain company-sensitive material that must remain confidential shall be stripped of any reference to a company by the JEDEC Office prior to use of the material. In all cases, survey results shall be presented to the full committee at the first meeting following the voting period expiration date.

Survey ballots are for gathering information or further clarifying member positions and survey votes are strictly nonbinding. All surveys should contain the following background statement:

“Companies are under no obligation to respond to this survey.”

The committee shall determine the method of data collection to ensure company confidentiality if required. In the case of anonymous surveys, the names of respondents shall be deleted by the JEDEC Office. The survey shall specify the method of data-collection.

7 JEDEC documents

JEDEC documents are available from the JEDEC website: www.jedec.org. JEDEC documents may not be sold without written authorization from JEDEC.

7.1 Interpretation

Official interpretations involving technical matters pertaining to JEDEC and/or ANSI/JEDEC standards and publications shall be made by the formulating committee of the document in question.

7.2 Document Maintenance

JEDEC documents shall be reviewed by the formulating committee within five years of the last publication date, after which the committee shall take one of the following actions with respect to the standards material:

- a) Reaffirm it as a JEDEC document
- b) Recommend its revision and reissuance as a JEDEC document
- c) Rescind it from publication as a JEDEC document, or
- d) Recommend submittal for its consideration as an ANSI or IEC document proposal.

Board of Directors approval is not required for document maintenance items a), c), or d).

7.3 Document Types

7.3.1 Standards (JESD)

Documents that are intended to represent a sound approach to product specification and application.

7.3.2 Publications (JEP)

Documents containing general engineering information on products, procedures, or services, that are not necessarily appropriate for standardization.

7.3.3 Specifications (JES)⁶

Documents prepared specifically to facilitate procurement, that clearly and accurately describes the essential technical requirements for purchased material or services.

7.3.4 Registered Outlines/Standards (CO, DO, GS, MO, MS, etc.)

Mechanical package outline drawings that have been registered and assigned a JEDEC registration number.

7.3.5 Registration Data Formats (RDF)

Engineering information in the form of a list of specific electrical and mechanical parameters necessary for the characterization of a particular class of solid state devices.

7.3.6 Manuals (JM)

Documents that describe internal JEDEC policies and procedures.

7.3.7 Joint Documents (J-STD, JP, JS, and JTR)

Documents created in cooperation between JEDEC and another organization.

NOTE J-STD documents are in cooperation with IPC and are assigned by IPC.

7.3.8 ANSI/JEDEC Standards

At the request of the sponsoring committee and after approval by Board ballot, JEDEC standards and publications may be submitted to ANSI through the JEDEC Office for processing as an ANSI National Standard. The JEDEC Office will be responsible for providing appropriate documentation to ANSI. All policies and procedures set forth by ANSI per the “ANSI Essential Requirements: Due Process Requirements for American National Standards” shall be followed. See Annex D for more details.

⁶ This document type has not been in use by JEDEC since early 1990's but is maintained here for historical purposes only.

8 Legal guidelines

All meetings of the JEDEC Board and its associated committees, subcommittees, task groups, and other units shall comply with JEDEC Legal Guidelines incorporated herein by reference. JEDEC Legal Counsel may advise the Board and committees from time to time concerning interpretation of Legal Guidelines.

8.1 JEDEC documents and publications

Prior to publication, the following documents including, but not limited to, all JEDEC standards, publications, manuals, minutes, surveys, questionnaires, press releases, registration data formats, and workshop proceedings, formulated by the Board, committees, and subcommittees, must be approved by JEDEC Legal Counsel.

8.2 Patent Policy

8.2.1 Terms and definitions

Affiliate: An entity owned or controlled by a Committee Member, or which controls or is under common control with a Committee Member for so long as such control exists.

NOTE For purposes of this definition, control means the ownership of greater than 50% of the voting securities of that Committee Member.

Approval by the Committee: An approval by vote of the committee to send a proposed Standard to the Board of Directors for review and approval. Some committees approve proposed Standards in parts, for example, by a "pass-hold" process. In those instances, "Approval by the Committee" means preliminary or final approval of the relevant part of a proposed Standard by a committee vote.

Committee Member: An entity that participates in a JEDEC committee and its Affiliates.

Contribution: Any submitted material, proposal or other submission offered by a Committee Member in the process of developing a Standard for the purpose of incorporating such submitted material, proposal, or other submission into a Standard, provided that such submitted material, proposal, or other submission either, a) exists in a tangible form of expression (including in electronic media); or b) is a verbal statement that is memorialized in written documentation (such as a proposed Standard or submitted material) and is either confirmed or not objected to by such Committee Member within thirty (30) calendar days after its receipt of or access to such memorialization, including without limitation, via posting on the JEDEC website.

8.2.1 Terms and definitions (cont'd)

Disclosure of Potentially Essential Patents (to Disclose Potentially Essential Patents): Disclosure to JEDEC, in writing, in the following form:

- a) for issued patents, disclose the patent owner, assignee (if available at time of disclosure) name, address and intellectual property rights (“IPR”) contact person; name or title of the patent; the patent number; the country or countries of issuance, and the Standard(s) on which the submitter of the disclosure believes an Essential Patent Claim may read,
- b) for published applications, disclose the patent application owner, assignee (if available at time of disclosure) name, address and IPR contact person; name or title of the patent; the patent application number; the country or countries of filing, and the Standard(s) on which the submitter of the disclosure believes an Essential Patent Claim may read, and
- c) for unpublished pending applications, disclose the name or title of the patent application, the patent application owner or assignee (if available at time of disclosure) name, address and the IPR contact person; the patent application number; the general subject matter of such unpublished application(s) and the Standard(s) on which the submitter of the disclosure believes an Essential Patent claim may read. Nothing herein precludes broader disclosure of unpublished patent applications on a voluntary basis or pursuant to a non-disclosure agreement.

Disclosure of a patent is deemed to include all patents claiming priority of a single filing. The listing of foreign equivalents is optional and at the discretion of the patent holder.

NOTE If any of a Committee Member’s disclosed patent or patent application contains Essential Patent Claims which, if licensed, would require a payment of royalties or other material consideration to an unaffiliated third party, the Committee Member must also note this fact in its disclosure statement.

Essential Patent: A Patent containing one or more Essential Patent Claims.

Essential Patent Claims: Those Patent claims the use of which would necessarily be infringed by the use, sale, offer for sale or other disposition of a portion of a product in order to be compliant with the required portions of a final approved JEDEC Standard.

NOTE Essential Patent Claims do not include Patent claims covering aspects that are not required to comply with a JEDEC Standard, or are required only for compliance with sections that are marked “example,” “non-normative,” or otherwise indicated as not being required for compliance, or related to underlying enabling technologies or manufacturing techniques not specified in the standard.

Participate (Participated, Participation): (a) joining a JEDEC committee or task group involved in the development of or amendments to a Standard; or (b) attending more than one meeting of such committee or task group (in person or by telephone) within a one-year period. “Participate” includes being present at any point in a meeting of a committee or task group even if the individual or entity has not formally joined the committee or task group.

Patents: All classes or types of patents other than design patents (including, without limitation, originals, divisions, continuations, continuations-in-part, extensions or reissues), and applications for these classes or types of patents throughout the world.

Potentially Essential Patent: A Patent that is reasonably believed by a subject person to contain one or more Essential Patent Claims.

8.2.1 Terms and definitions (cont'd)

Potential Licensees: All JEDEC Committee Members and non-members.

RAND: Reasonable and non-discriminatory licensing terms and conditions.

Representative: An individual who represents a Committee Member. The term includes entities that have not formally joined the committee or task group, if they participate.

Standard: Standards include publications and package outlines, provided that they are adopted (or intended to be adopted) by the JEDEC Board of Directors and have the effect of Standards. Standards work includes activities in JEDEC committees and task groups.

Task Group: Task group or task groups include any joint task group in which two or more JEDEC committees participate.

NOTE Standards include both proposed and adopted JEDEC technical specifications.

8.2.2 General Provisions

8.2.2.1 Committee Members

All Committee Members, as a condition of committee membership or committee Participation, agree to abide by JEDEC rules and procedures, including this JEDEC patent policy ("Patent Policy"). This commitment also applies to entities that Participate in JEDEC Committees or task groups, whether or not they have formally joined as JEDEC members.

All Committee Members, as a condition of committee membership and participation, agree to Disclose Potentially Essential Patents, as set forth more fully in 8.2.3, and to offer to license their Essential Patent Claims to all Potential Licensees on RAND terms and conditions, if and as consistent with 8.2.3 and 8.2.4.

The disclosure and licensing obligations of Committee Members and Participants are limited to Standards developed in the particular JEDEC committees, task groups and joint task groups in which and while they Participate.

As JEDEC members, Committee Members and Representatives are encouraged, but not required, both to disclose their Potentially Essential Patents and to license their Essential Patent Claims on RAND terms and conditions for Standards developed in all other JEDEC committees in which they are not Committee Members. Such disclosure shall be in the format described in 8.2.3 and be made to the JEDEC Legal Department.

Committee Members and Representatives are encouraged, but not required, to disclose the Potentially Essential Patents of other entities, including other Committee Members and third-parties.

Committee Members and Representatives are encouraged, but not required, to bring Patent Policy issues or concerns with respect to the Disclosure of Potentially Essential Patents and the licensing of Essential Patent Claims to the attention of the JEDEC Board of Directors for resolution, see 9.2.

8.2.2 General Provisions (cont'd)

8.2.2.2 Committees

JEDEC committees and task groups shall not consider any matters or proposals that are outside the approved scope of such committees or task groups. Furthermore, JEDEC committees and task groups are encouraged to use best efforts to avoid proposals for Standards that are within the approved scope of such committees and task groups and that would be likely to cause Committee Members to terminate their membership in the committee or task group for the purpose of discontinuing their disclosure or RAND licensing obligations.

JEDEC committees and task groups shall keep track of all notices, disclosures and licensing assurances with respect to Potentially Essential Patents and to review, on a periodic basis, the list of prior disclosures of Potentially Essential Patent Claims.

JEDEC committees and task groups shall consider reasonable workarounds and technical alternatives (but are not required to implement such workarounds or alternatives) within the earlier of: a) balloting, or b) one-hundred twenty (120) calendar days of receiving Notice of Refusal to offer Licenses on RAND Terms.

JEDEC committees and task groups are encouraged, but not required, to resolve patent policy issues before balloting. Unresolved issues relating to Potentially Essential Patents may be submitted to the JEDEC Board of Directors for resolution, see 9.2. The sole remedy for any issues or concerns about deviations from approved scope shall be an appeal to the JEDEC Board of Directors made prior to Approval by the Committee, see 9.2.

8.2.3 Disclosure of Potentially Essential Patents

At each committee meeting, the chairperson should call to the attention of all those present the requirements contained in the JEDEC Legal Guides and the obligation of all Representatives to inform the committee of any personal knowledge they have of any Potentially Essential Patents that are owned or controlled by that Committee Member and to call for the Disclosure of Potentially Essential Patents by Representatives. Annex A provides information to be displayed at the beginning of the committee meeting to satisfy the requirement. Additionally, all Representatives should be asked to read the statement attached to each JEDEC sign-in/attendance roster; see Annex A for patent policy application guidelines.

All Committee Members must Disclose Potentially Essential Patents, known to their Representative(s) to be Potentially Essential Patents that are owned or controlled by that Committee Member to the personal knowledge of the Representatives. However, neither Committee Members nor Representatives shall have any obligation to conduct a search for Potentially Essential Patents.

Disclosure of Potentially Essential Patents by a Representative or the Committee Member being represented shall be made as early as reasonably possible. The Disclosure of Potentially Essential Patents shall be in accordance with the definition of Disclosure of Potentially Essential Patents, see 8.2.1. Initial disclosure by a Committee Member or Representative may be made in a meeting of the committee or task group. The Representative is responsible for ensuring that such disclosure is properly recorded in the meeting minutes.

8.2.3 Disclosure of Potentially Essential Patents (cont'd)

The Representative or Committee Member shall document all known Potentially Essential Patents in either: a) License Assurance/Disclosure Forms, see Annex A.3, or b) Notice of Refusal to offer Licenses on RAND Terms forms, see Annex A.4. Such disclosures or notices of known Potentially Essential Patents shall be delivered to the JEDEC Legal Department within thirty (30) calendar days of Approval by the Committee in order to be effective.

8.2.3.1 Disclosure of unwillingness to license work of a committee

If a Committee Member knows that it would not be willing to offer to license Essential Patent Claims arising from the Contributions of another Committee Member on RAND terms to all Potential Licensees consistent with 8.2.4, the Committee Member shall notify the committee chair in writing as early as reasonably possible but no later than thirty (30) calendar days after Approval by the Committee in the form of a Notice of Refusal to offer Licenses on RAND Terms, see Annex A.4.

The committee shall consider working around the material or other technical alternatives with a goal of resolving the concern if at all possible. The Committee Member may (at its own discretion) withdraw its notification of Refusal to License at any time. However, if the Committee Member wishes to maintain its position that it would refuse to License the work of the committee, the Committee Member must withdraw from the committee no later than one-hundred twenty (120) calendar days after providing notice of its unwillingness to license.

8.2.4 RAND Patent Licensing Commitment

Subject to the terms and conditions of section 8.2.4, each Committee Member, as a condition of Participation, agrees to offer to license on RAND terms, to all Potential Licensees, such Committee Member's Essential Patent Claims for the use, sale, offer for sale or other disposition of a portion of a product in order to be compliant with the required portions of a final approved JEDEC Standard issued during the period of membership in that committee. The licensing commitment does not apply to Essential Patents of a Committee Member where notice of a Refusal to License has been given by the Committee Member in accordance with 8.2.3.1.

This commitment applies to any Standard that was pending in the committee or task group while the Committee Member Participated in that committee or task group. If a Committee Member terminates its committee membership, the commitment does not apply with respect to any new proposal or Standard introduced in the committee or task group after the Committee Member provided notice to the JEDEC Legal Department terminating its committee membership. If and as necessary, questions whether or not a particular proposal is a new Standard or merely a continuation of a prior Standard will be addressed in the first instance by the JEDEC Legal Department in accordance with 8.2.10.

Certain exceptions apply to the licensing requirement. A Committee Member will not be required to license or continue to license its Essential Patent Claims to a Potential Licensee for a particular Standard if: (i) such Potential Licensee does not agree to grant a license to all other Potential Licensees under such Potential Licensee's Essential Patent Claims of that Standard on RAND terms and conditions for the approved Standard and/or (ii) such Potential Licensee has commenced or has threatened to commence patent litigation targeting such Committee Member's products that are meant to comply with that Standard.

8.2.5 Licensing Assurance/Disclosure Form

A Committee Member or Representative agrees to offer the following licensing options for an Essential Patent Claim:

For any Essential Patent Claims held or controlled by the entity, pending or anticipated to be filed, which are or may be required to implement a Standard that may result from the JEDEC Standard Activity, the entity hereby makes one of the following commitments:

- (i) A license will be offered, without compensation, under reasonable terms and conditions that are free of any unfair discrimination to applicants desiring to utilize the license for the purpose of implementing the JEDEC Standard, subject to the terms and conditions in 8.2.4; *or*
- (ii) A license will be offered, to applicants desiring to utilize the license for the purpose of implementing the JEDEC Standard under reasonable terms and conditions that are free of any unfair discrimination, subject to the terms and conditions in 8.2.4.

Such assurance shall indicate that the patent holder (or third party authorized to make assurances on its behalf) will include in any documents transferring ownership of patents subject to the assurance, provisions sufficient to ensure (i) that the commitments in the assurance are binding on the transferee⁷, and (ii) that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding each successor-in-interest.

The assurance shall also indicate that it is intended to be binding on successors-in-interest regardless of whether such provisions are included in the relevant transfer documents.

If a Committee Member, at its discretion, elects not to submit a License Assurance/Disclosure Form (see Annex A.3) at or before the time the ballot closes and does not otherwise provide notice of an unwillingness to license in accordance with 8.2.3.1, the Committee Member and its Affiliates will be deemed to have agreed to offer to grant licenses on RAND terms and conditions for all of its Essential Patent Claims of the balloted Standard, if and as consistent with 8.2.4.

8.2.6 Reference to patented products in JEDEC standards and publications

The following notice shall be included inside the front cover of all JEDEC Standards in which Essential Patent Claims are or may be involved:

“The user’s attention is called to the possibility that compliance with this document may implicate the use of an invention covered by patent rights.”

“By publication of this document, no position is taken with respect to the infringement or validity of any patents. However, JEDEC has received statements of a willingness to offer to license certain rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license. Details may be obtained from JEDEC.”

⁷ Committee Members and Representatives may comply with (i) and (ii) by notifying the transferee in writing that the RAND licensing obligations under Section 8.2.4 are binding on the Committee Member or Representative, the transferee and subsequent transferees or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances, e.g., a RAND licensing obligation, that may exist as of the effective date of such agreement.

8.2.7 Special legal disclaimer

The Board has the discretion to approve the issuance of a standard for which a patent owner or applicant has not provided written assurance that the Essential Patent Claims will be licensed, subject to special legal disclaimers.

When determining whether to approve the issuance of such a standard, the Board shall consider whether the committee used diligent efforts, if appropriate under the circumstances, to develop a standard that does not require the use of the Essential Patent Claim(s).

A special legal disclaimer might include the following language:

“Notice: JEDEC has received information that certain patents or patent applications may be essential to this standard. However, as of the publication date of this standard, no statements regarding an assurance or refusal to license such patents or patent applications have been provided. JEDEC does not make any determination as to the validity or relevancy of such patents or patent applications. Anyone making use of the standard assumes all liability resulting from such use. JEDEC and its members disclaim any representation or warranty, express or implied, relating to the standard and its use.”

If the Board determines that:

- (1) the claim by the patent owner or applicant that an identified patent or patent application may be essential to implement a Standard is a reasonable claim, and
- (2) there is a credible indication that the patent owner or applicant is unwilling or unable to grant licenses, with or without compensation, on RAND terms,

then the Board *shall not* approve the issuance of the standard except as provided in 8.2.7. In its discretion, the Board may seek the advice of an independent outside patent attorney or consultant in making the determinations in subsections (1) and/or (2) of 8.2.7.

8.2.8 Miscellaneous

The Patent Policy applies equally to situations involving the Essential Patent Claims that are discovered after adoption of the Standard.

JEDEC makes no representation as to the reasonableness of any terms or conditions of the license agreements offered by such patent rights holders, and all negotiations regarding such terms and conditions must take place between the individual parties outside the context of JEDEC.

To the extent that Potentially Essential Patent Claims are disclosed with respect to a JEDEC Standard, information regarding the parties who have asserted patent rights in the Standard may be obtained from the JEDEC Corporate Office.

It is possible that other patent rights that have not been disclosed to JEDEC may be implicated by implementation of or compliance with a JEDEC Standard. JEDEC is not responsible for identifying patent claims for which a license may be required in order to implement a JEDEC Standard, and takes no position and conducts no inquiries with respect to the legal validity or scope of those patents or patent claims that are brought to its attention.

8.2.9 Violations

If a Committee Member or Representative materially violates this Patent Policy and the violation is not cured within thirty (30) days following notification of the violation by the JEDEC Corporate Office, the JEDEC Board of Directors may in its discretion suspend the Committee Member or Representative's right to participate in JEDEC. If the Committee Member is allowed to continue participation and engages in another material violation of this Policy, the JEDEC Board of Directors may in its discretion revoke the Committee Member or Representative's right to participate in JEDEC.

8.2.10 Interpretation and Governing Law

The obligations and rights of parties to this agreement in the conduct of committee meetings and the approval of standards as set forth in this Patent Policy will be interpreted in the first instance by the JEDEC Legal Department. When specifically requested by a Committee Member or Representative, interpretations by the Legal Department will be in writing.

Written interpretations by the Legal Department can be appealed by a Committee Member or Representative to the JEDEC Board of Directors. The Board of Directors will make a final decision on appeal, as determined in their reasonable and good faith judgment. The final decision will be in writing.

In no event will JEDEC or the JEDEC Board make a determination that a Patent is or is not a Potentially Essential Patent or that a Patent Claim is or is not an Essential Patent Claim.

The Patent Policy will be interpreted and governed under the laws of the State of New York.

9 Appeals

All appeals related to standard or publication development are initially directed to the JEDEC Office. The provision for appeals is important for the protection of all parties involved within the JEDEC standards development process. An appeals mechanism safeguards both those who are directly and or materially affected by the process and the standards developing organization.

9.1 Appeals related to ANSI/JEDEC standards and publications

The following appeals procedures shall be used for actions taken within the JEDEC standards process for the development of ANSI/JEDEC standards and publications.

9.1.1 Right of appeal

Persons who have directly and or materially affected interests and who have been or will be adversely affected by a standard or publication within ANSI jurisdiction have the right to appeal substantive or procedural actions or inactions of JEDEC formulating groups.

The burden of proof to show an adverse effect shall be on the appellant. Appeals shall be directed to the JEDEC Office in accordance with the appeals procedures as defined in this section.

9.1.2 Criteria for appeals mechanism

The following general criteria are encompassed in these appeals procedures:

- a) Appeals shall be addressed promptly and a decision made expeditiously;
- b) The right of the involved parties to present their cases shall not be denied;
- c) These procedures shall provide for participation by all parties concerned without imposing an undue burden on them;
- d) Consideration of appeals shall be fair and unbiased and shall fully address the concerns expressed; and
- e) Records of appeals shall be kept and made available upon request. The JEDEC Office may levy an appropriate charge to cover the cost of reproduction, handling, and distribution of materials. The fee shall be predetermined, fixed, and reasonable. A procedure for requesting a fee waiver or fee reduction shall be available.

9.1.3 Appeals procedures

The following subsections outline the JEDEC Appeals Procedures. In the case of an appeal to ANSI of a JEDEC action or inaction on an ANSI/JEDEC standard, the appellant may waive the right of the JEDEC appeals process, see 9.1.4.

9.1.3.1 Complaints

The appellant shall file a written complaint with the JEDEC Office within 30 calendar days after the date of the action being appealed or at any time with respect to inaction. The complaint shall state the nature of the objection(s) including any adverse effects, the section(s) of these procedures or the standard(s) that are at issue, action(s) or instances of inaction that are at issue, and the specific remedial action(s) that would satisfy the appellant's concerns. Previous efforts to resolve the objection(s) and the outcome of each shall be noted.

9.1.3.2 Response

Within 30 calendar days after receipt of the complaint, the respondent (formulating group chairman or JEDEC representative) shall respond in writing to the appellant, specifically addressing each allegation of fact in the complaint to the extent of the respondent's knowledge. Complaints that are technical in nature shall be referred to the appropriate JEDEC formulating committee having jurisdiction over the material for review and possible action. Complaints that are procedural in nature shall be referred to the JEDEC Board for review and possible action.

9.1.3.3 Hearing

If the appellant and the respondent are unable to resolve the written complaint informally in a manner consistent with these procedures within 15 calendar days, the JEDEC Office shall schedule a hearing with an appeals panel* on a date agreeable to all participants but within 30 calendar days, giving at least 10 calendar days' notice. Hearing on the complaint will take place at the next regular meeting of the JEDEC formulating committee or the JEDEC Board depending on the nature of the complaint.

NOTE In the case of an ANSI appeal, see Annex D.10 for clarification of an appeals panel.

9.1.3.4 Conduct of the hearing

The appellant has the burden of demonstrating adverse effects, improper actions or inactions, and the efficacy of the requested remedial action.

9.1.3.5 Decision

The appeal disposition shall be documented by the formulating committee for technical matters and by the JEDEC Board for procedural matters. A record of the appeals shall be kept by JEDEC and made available to the involved parties.

NOTE In the case of an ANSI appeal, the appeals panel shall render its decision in writing within 30 days of the hearing, based upon a preponderance of the evidence, stating its findings of fact and conclusions, with reasons therefore and citing the evidence. The Committee Secretary shall notify the appellant and the Committee of the decision of the appeals panel, which shall be binding and final on all concerned.

If, for whatever reason(s), the appellant chooses to forego the process detailed above, the JEDEC Office shall maintain all documents pertaining to JEDEC attempts to resolve the matter at hand. These documents may be used in any further appeals proceedings.

9.1.4 Further appeal

If the matter under appeal relates to a JEDEC Standard that has been or is expected to be recognized as an American National Standard, subsequent further appeal may be made directly to ANSI. If the appellant gives notice to the JEDEC Office that further appeal to ANSI is intended, a full record of the complaint, response and decision shall be submitted by the JEDEC Office to ANSI.

NOTE ANSI will not normally hear an appeal of an action or inaction by JEDEC until the appeals process has been completed. Such appeals shall be directed to ANSI in accordance with the procedures of the appropriate ANSI entity (e.g., Board of Standards Review, Executive Standards Council, etc.).

9.2 Appeals not related to ANSI/JEDEC standards and publications

The following appeals procedures shall be used for actions taken within the JEDEC standards process that are not related to the development of ANSI/JEDEC standards and publications.

9.2.1 Right of appeal

Committee Members or Participants who have directly and or materially affected interests and who have been or will be adversely affected by the activities of another Committee Member or Representative, a JEDEC committee, or a JEDEC standard or publication have the right to appeal technical or procedural actions or inactions.

The burden of proof to show an adverse effect shall be on the appellant. Appeals shall be directed to the JEDEC Office in accordance with the appeals procedures as defined in this section.

9.2.2 Criteria for appeals mechanism

The following general criteria are encompassed in these appeals procedures:

- a) Appeals shall be addressed promptly and a decision made expeditiously;
- b) The right of the involved parties to present their cases shall not be denied;
- c) These procedures shall provide for participation by all parties concerned without imposing an undue burden on them;
- d) Consideration of appeals shall be fair and unbiased and shall fully address the concerns expressed; and
- e) Records of appeals shall be kept and made available upon request. The JEDEC Office may levy an appropriate charge to cover the cost of reproduction, handling, and distribution of materials.

9.2.3 Appeals procedures

The following subsections outline the JEDEC Appeals Procedures for appeals that are not related to ANSI/JEDEC standards and publications.

9.2.3.1 Complaints

The appellant shall file a written complaint with the JEDEC Office within 30 calendar days after the date of the action being appealed or at any time with respect to inaction. The complaint shall state the nature of the objection(s) including any adverse effects, the section(s) of these procedures or the Standard(s) that are at issue, action(s) or instances of inaction that are at issue, and the specific remedial action(s) that would satisfy the appellant's concerns. Previous efforts to resolve the objection(s) and the outcome of each shall be noted.

9.2.3.2 Response

Within 30 calendar days after receipt of the complaint, the respondent(s) shall respond in writing to the appellant, specifically addressing each allegation of fact in the complaint to the extent of the respondent's knowledge.

Complaints that are technical in nature shall be referred to the appropriate JEDEC committee having jurisdiction over the material for review and possible action. Complaints that are non-technical or procedural in nature shall be referred to the JEDEC Board for review and possible action. Complaints that relate to the patent policy shall be referred to the JEDEC Board for review and possible action.

9.2.3.3 Hearing

If the appellant and the respondent are unable to resolve the written complaint informally in a manner consistent with these procedures within 30 calendar days, the JEDEC Office shall schedule a hearing with an impartial appeals panel consisting of three individuals appointed by the committee or the JEDEC Board, as appropriate, on a date agreeable to all parties, giving at least 10 calendar days' notice. Hearing on the complaint will take place in person or by telephone.

9.2.3 Appeals procedures (cont'd)

9.2.3.4 Conduct of the hearing

The appellant has the burden of demonstrating adverse effects, improper actions or inactions, and the efficacy of the requested remedial action.

9.2.3.5 Decision

The appeal disposition shall be documented by the JEDEC appeals panel. A record of the appeals shall be kept by JEDEC and made available to the involved parties.

Appeal dispositions on complaints that are technical in nature may be further appealed to the appropriate JEDEC committee. Appeal dispositions on complaints that are non-technical or procedural in nature may be further appealed to the JEDEC Board of Directors.

10 External publicity

All articles, presentations, news releases, or other publicity must be approved by JEDEC Legal Counsel prior to release.

10.1 Articles, speeches, and presentations

Articles, speeches, and other presentations for publication or delivery by members of the Board, its committees, or JEDEC staff that cover specific JEDEC work or JEDEC policy or purports to speak on behalf of JEDEC must be approved by the Board, if time permits; otherwise by the Board chairperson or Marketing Vice-Chair who shall be responsible for ensuring that the content is accurate and reflects current JEDEC policy. Any publicity that speaks for the Board shall require similar approval.

10.2 External publicity by JEDEC prior to Board approval

In coordination with the JEDEC office, the committee chairperson may talk to the press and approve technical and tradeshow presentations about ongoing committee work when it is appropriate to promote a particular standard or the work of the committee. This public disclosure should be limited to the goal of the standard under development and any details of the standard that have been approved by committee ballot(s).

In coordination with the committee chairperson, JEDEC may engage in external publicity efforts to promote the association's intention to pursue standardization of a technology, which may include the goal of the standard under development and high-level technical details about the standard in development that have been approved by committee ballot.

10.3 External publicity by member companies prior to Board approval

Companies may not engage in external publicity, including but not limited to advertisements, press releases, and displays of physical implementations regarding a JEDEC standard, publication, or registration prior to Board approval of the documents, unless the following conditions are met:

- **AFTER** JEDEC has issued a press release or other official external publicity stating the association's intention to pursue standardization of the technology, member companies may promote their intention to follow a JEDEC standard, publication, or registration prior to Board approval of the documents.
- **IF** the official JEDEC external publicity contains high-level technical details about the standard, publication or registration in development, member companies may use those details in their own external publicity. Member companies may not, under any circumstances, convey any technical details about pre-publication work in progress that have not been externally communicated by JEDEC.

For example, once JEDEC has issued a press release or other official external publicity, the following language would be appropriate:

“Company A announced its intention to follow JEDEC’s DDRX SDRAM standard when it is published.”

“Company B has been an active contributor to JEDEC for more than a decade, helping to drive development and adoption of the most advanced memory interfaces like (published technology A) and (published technology B) for a range of emerging applications. We look forward to bringing new solutions to market in support of JEDEC’s DDRX SDRAM standard when it is published.”

The following example MAY be appropriate, depending on the content of the relevant official JEDEC external publicity. Use caution and ask for preliminary review prior to going public:

“Company C extends its long history of support for JEDEC standards with the availability of UFS X.0 controller IP, and is providing support for UFS X.0 with selected customers in anticipation of the published standard. UFS X.0 introduces new features including (feature 1), (feature 2), and (feature 3).”

An example of **unacceptable** language **before Board approval of a document, publication or registration**:

“Company D announced that it had completed development of its first DDRX memory chip. The new chip is said to be the industry’s first DRAM that is fully compliant with the JEDEC standard, which is yet to be published.”

Members are encouraged to contact the JEDEC office in advance with any questions or for a preliminary review of planned external publicity for compliance with the policy.

All such external publicity must include the following disclaimer: *“JEDEC standards are subject to change during and after the development process, including disapproval by the JEDEC Board of Directors.”*

10.4 External publicity of preexisting technologies

If a member company brings a proprietary, preexisting technology into JEDEC for standardization, that member retains the right to make public disclosures about the technology itself. However, the company must abide by the policies set forth in Section 10 with respect to disclosures made about JEDEC or its standards development work in progress.

When a proprietary technology is brought into a JEDEC committee for standardization, the technology must be renamed to avoid industry confusion.

10.5 Sanctions for external publicity violations

Companies found to be in violation of JEDEC policy are subject to sanctions. Refer to Section 12 for more information.

11 JEDEC ethics rules for electronic communications

No JEDEC member or alternate shall post to an e-mail reflector, bulletin board, or Web site owned or sponsored by JEDEC, any of the following:

- a) any advertising or marketing information,
- b) any cost or pricing information,
- c) any proprietary information,
- d) any non-JEDEC copyright information or material that is in excess of that allowed under current USA copyright laws,
- e) any technical information that requires a USA government export license before it is transferred outside of the United States,
- f) information covered by USA secrecy laws,
- g) solicitations, or requests for contributions to “for profit” or “non-profit” (charitable) organizations,
- h) chain letters,
- i) job search or hiring information,
- j) computer games or other software products,
- k) files with known software viruses,
- l) offensive material covering:
 - 1) libel (i.e., false or malicious statements),
 - 2) threats, retaliation, or intimidation,
 - 3) use of language that is obscene or in poor taste, including jokes,
 - 4) sexual harassment or inappropriate sexual content, such as pictures, images, messages, or cartoons,
 - 5) discriminatory communication relating to race, color, national origin, sex, marital status, sexual orientation, age, veteran’s status, disability, religious or political beliefs.

All electronic communications and posting must comply with this JEDEC Manual and the JEDEC Legal Guides.

12 Sanctions for policy violations

When an alleged violation of JEDEC policy is brought to the attention of the JEDEC office, a panel of three Board members not associated with the violation will be appointed by the Board Governance Committee to review the alleged violation. If there is a conflict of interest within the Governance Committee, the Board Chairman will appoint the panel. A panel's ruling on a sanction must be brought to the full Board for approval.

When reviewing the circumstances of an alleged violation and determining whether a violation has occurred, the panel will be provided information as context from all of the following at a minimum: the reporting entity, the company accused of the violation, the relevant committee and/or TG chair(s), and the content or context of the alleged violation itself.

If a policy violation is deemed to have occurred, the panel has the discretion to penalize the offending company commensurate with its assessment of the severity of the violation, including whether the company has been found to be in violation of JEDEC policy in the past. Sanctions for policy violations may include:

- A warning combined with notification to the full committee.
- Suspension of voting rights in the TG and/or committee relevant to the violation for a defined period of time.
- Suspension of the right to attend TG and/or committee meetings relevant to the violation for a defined period of time.
- Restriction of access to the members' website workspaces for the TG and/or committee relevant to the violation for a defined period of time.

Annex A (normative) Legal guidelines summary

A.1 JEDEC patent policy summary

- All JEDEC Member Companies and their Representatives agree to abide by the JEDEC patent policy.
- The commitment applies to all entities, including non-committee members, that have a Representative present at any point in a meeting of a JEDEC Committee or Task Group.
- The commitment continues as long as the Committee Member or Representative is a member of or a participant in a particular JEDEC Committee.
- For the purposes of the patent policy, "Committee" refers to the full committee, except for those committees that have subcommittees. In that context, "committee" refers to any group that has a separate scope.
- All companies and their representatives are required to disclose all known Potentially Essential Patent Claims owned or controlled by the company.
- No company has a duty to conduct a search for Potentially Essential Patent Claims.
- All companies, as a condition of committee membership or participation, agree to license their Essential Patent Claims on RAND terms and conditions.
- The licensing assurance must indicate that the patent holder (or third party authorized to make assurances on its behalf) will include in any documents transferring ownership of patents subject to the assurance, provisions sufficient to ensure (i) that the commitments in the assurance are binding on the transferee, and (ii) that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding each successor-in-interest.
- If a Member Company knows it would be unwilling to license its Essential Patent Claims on RAND terms, the member must notify the committee chair and withdraw from the committee within 120 days after giving the notice. This option is not available to a Member Company with respect to its own Contribution.
- Companies and their representatives are required to use a standard form for the disclosures and assurances.
- The disclosure and licensing obligations of companies and their representatives are limited to Standards developed in the particular JEDEC committees in which they are members or in which they participate.
- The obligations apply to all entities, including non-committee members, that have a representative present at any point in a meeting of a JEDEC Committee or Task Group.
- Member Companies and their Representatives are strongly encouraged to review their current committee and subcommittee assignments, and ensure they are prepared to accept the commitments defined by the patent policy.

See, 8.2 for additional information.

A.2 Copyright material

If, in developing a standard, a publication, or a specification, a committee proposes to incorporate verbatim material from a publication copyrighted by another organization, it shall obtain written permission from the owner of the copyright for JEDEC to copy the material. The letter granting permission shall be sent to the JEDEC Office, and the standard or publication shall include a reference to such permission as a footnote.

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A.3 License Assurance/Disclosure Form (See 8.2.3 and 8.2.5 of the JEDEC Patent Policy)

For the electronic version of the License Assurance/Disclosure Form go
to: http://www.jedec.org/sites/default/files/License_Assurance-Disclosure_Form_20150710.pdf

Part 1

Date: _____

Entity Name: _____

Address: _____

IPR Contact: _____

Phone: _____

E-Mail: _____

Part 2

Identify the relevant JEDEC Standard:

Part 3

For Issued Patents:

Patent No: _____

Patent Name or Title: _____

Country of Issuance: _____

For Published Patent Applications:

Published Patent Application No. : _____

Patent Application Name or Title: _____

Country of Filing: _____

For Unpublished Patent Applications:

Subject Matter of Patent Application:

A.3 License Assurance/Disclosure Form (cont'd)

You must complete Part 4 if the entity holds a Patent or has applied for a Patent on an invention the use of which is or may be required to comply with a Standard that may result from the JEDEC Standard Activity.

Part 4

For any Essential Patent Claims held or controlled by the entity, pending or anticipated to be filed, the entity states:

- ___ (i) A license will be offered, without compensation, under reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to utilize the license for the purpose of implementing the JEDEC Standard; *or*
- ___ (ii) A license will be offered, with compensation, to applicants desiring to utilize the license for the purpose of implementing the JEDEC Standard under reasonable terms and conditions that are demonstrably free of any unfair discrimination.

Such assurance shall indicate that the patent holder (or third party authorized to make assurances on its behalf) will include in any documents transferring ownership of patents subject to the assurance, provisions sufficient to ensure (i) that the commitments in the assurance are binding on the transferee⁸, and (ii) that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding each successor-in-interest.

The assurance shall also indicate that it is intended to be binding on successors-in-interest regardless of whether such provisions are included in the relevant transfer documents.

⁸ Committee Members and Representatives may comply with (i) and (ii) by notifying the transferee in writing that the RAND licensing obligations under Section 8.2.4 of the JEDEC Patent Policy are binding on the Committee Member or Representative, the transferee and subsequent transferees or a general statement in the transfer or assignment agreement that the Patent Claim(s) being transferred or assigned are subject to any encumbrances, e.g., a RAND licensing obligation, that may exist as of the effective date of such agreement.

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A.3 License Assurance/Disclosure Form (cont'd)

Part 5

For any disclosed Patent or Patent Application that contains Essential Patent Claims which, if licensed, would require a payment of royalties or other material consideration to an unaffiliated third party, provide the following information:

Name of Third Party: _____

Address: _____

IPR Contact: _____

Phone: _____

E-Mail: _____

AGREED, ON BEHALF OF THE ENTITY:

(Signature)

(Name printed)

(Date)

NOTE The committee or task group has the right to request additional technical information relating to the Patent or Patent Application in order to consider workarounds and other technical alternatives.

*RETURN THE COMPLETED FORM BY MAIL TO
JEDEC, ATTENTION: LEGAL DEPARTMENT,
3103 NORTH 10TH STREET, SUITE 240-S, ARLINGTON, VA 22201-2107
OR BY E-MAIL TO JOHNK@JEDEC.ORG*

A.4 Notice of Refusal to Offer Licenses on RAND Terms**Part 1**

Date: _____

Committee Member: _____

Entity Mailing Address: _____

IPR Contact Name: _____

IPR Contact Telephone Number: _____

IPR Contact E-Mail Address: _____

Part 2

Identify the relevant JEDEC Standard:

Part 3

Pursuant to 8.2.3.1 of the JEDEC Patent Policy, the Committee Member hereby provides notice that the Committee Member is not willing to offer a license on RAND terms to the Potentially Essential Patents identified in A.4, Part 4.

Part 4

For Issued Patents (please attach additional pages as necessary):

1. Owner or assignee (if known at time of disclosure) name: _____
2. Patent Name or Title: _____
3. Patent Number: _____
4. Country of Issuance: _____
5. Portions of Proposed JEDEC Standard affected (please use reasonable efforts to identify which portions may be affected), e.g., clause, page, or any other identifiable information:

For Published Patent Applications (please attach additional pages as necessary):

1. Owner or assignee (if known at time of disclosure) name: _____
2. Published Patent Application Number: _____
3. Patent Application Name or Title: _____
4. Country of Filing: _____
5. Portions of Proposed JEDEC Standard affected (please use reasonable efforts to identify which portions may be affected), e.g., clause, page, or any other identifiable information:

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A.4 Notice of Refusal to Offer Licenses on RAND Terms (cont'd)

For Unpublished Patent Applications (please attach additional pages as necessary):

1. Owner or assignee (if known at time of disclosure) name: _____
2. General Subject Matter of Patent Application: _____

3. Portions of Proposed JEDEC Standard affected (please use reasonable efforts to identify which portions may be affected), e.g., clause, page, or any other identifiable information: _____

Part 5

By signing this Notice, the IPR Contact represents that they are authorized to complete and submit this Notice on behalf of the Committee Member. Pursuant to Section 8.2.3.1 of the JEDEC Patent Policy, the IPR Representative represents that the information provided in this Notice does not include a contribution that was contributed by the Committee Member. If the Committee Member becomes aware of any other Potentially Essential Patent not already covered by a Notice and the ballot period is open, then the Committee Member may submit additional Notices.

Signature of IPR Contact

Accepted and Agreed to:

JEDEC

Date Accepted: _____

*RETURN THE COMPLETED NOTICE BY MAIL TO
JEDEC, ATTENTION: LEGAL DEPARTMENT,
3103 NORTH 10TH STREET, SUITE 240-S, ARLINGTON, VA 22201-2107
OR BY E-MAIL TO JOHNK@JEDEC.ORG*

Annex B (informative) Patent policy application guidelines

The following points describe the application of the JEDEC patent policy:

- B.1** Committee discussion of pending or existing patents is a permissible activity and is encouraged when the committee feels that the patented item or process represents the best technical basis for a standard.
- B.2** Discussion of a pending or existing patent does not constitute an acknowledgment of the validity of the patent, because validity is based on prior art and determination of the company/individual that first made the invention or applied for the patent. The committee's concern is only with the technical merits of the patent and whether the technical proposal is a sound basis for standardization.
- B.3** By its terms, the JEDEC patent policy applies with equal force to situations involving:
- a) the discovery of patents that may be required for use of a standard subsequent to its adoption, and
 - b) the initial issuance of a patent after the adoption of a standard.

Once disclosure is made, the holder is obligated to provide the same assurances to JEDEC as are required in situations where patents exist or are known prior to approval of a proposed standard.

Thus, if notice is given of a patent that may be required for use of an already approved JEDEC standard, a standards developer may wish to make it clear to other standards-making participants that the JEDEC procedures require the patent holder to provide the assurances contained in the patent policy or suffer the withdrawal of JEDEC's approval of the document as a JEDEC standard.

Annex C (normative) ANSI Standardization Procedures

For those documents that are intended for publication as an American National Standard (ANS), the provisions set forth in this annex apply.

C.1 Notification of American National Standards (ANS) development

Notification of American National Standards activity shall be announced in suitable media as appropriate to demonstrate provision of opportunity for participation by all directly and materially interested parties. At the initiation of a project to develop or revise a Standard, notification shall be transmitted to ANSI using the Project Initiation Notification System (PINS) form, or its equivalent, for listing in Standards Action. A PINS form may be submitted, but is not required, at the initiation of a project to reaffirm or withdraw a Standard. Prompt consideration shall be given to the written views and objections of all participants, including those commenting on the PINS announcement. Comments resulting from the filing of PINS will be handled in accordance with the ANSI Essential Requirements, 2.5.

C.2 Submission to ANSI for public review

Following approval of the standard, responsible JEDEC Standards staff shall submit the proposed ANS to ANSI to initiate public review. JEDEC Standards staff shall provide appropriate documentation to ANSI. Responsible JEDEC Standards staff shall receive, collect and acknowledge receipt of public review comments. In addition, responsible JEDEC Standards staff shall forward all public review comments to the formulating group for review and response. The response to each commenter shall include a notation of the JEDEC and ANSI appeals process.

NOTE A proposed ANS is subject to comment only (not for vote) during public review and by any and all materially or directly affected parties.

C.3 Public review comments

JEDEC Standards staff shall acknowledge receipt of a public review comment, regardless of its nature. The only comments normally addressed by a working group or formulating group are editorial or technical in nature. Technical comments should be accompanied with wording that would aid the formulating group in addressing the comments.

Other comments may be handled in the following manner on behalf of the formulating group:

- The JEDEC Legal Counsel shall respond to comments relating to legal concerns;
- JEDEC Standards staff shall respond to comments relating to concerns regarding the standards development process;
- The formulating group with input from JEDEC staff shall address scope concerns;
- The reason for non-acceptance shall be sent regarding editorial or technical concerns;
- Vague comments shall be returned to the respondent requesting expeditious clarification.

JEDEC Standards staff shall retain copies of response to comments.

Annex C (informative) ANSI Standardization Procedures (cont'd)**C.4 Public review commenter response**

The commenter shall have 14 calendar days after response to acknowledge the acceptance or rejection of that reply. If no response is received, the responsible JEDEC Standards staff shall send a reminder notice to the commenter requesting response. If no response is received within an additional 5 calendar days, the responsible JEDEC Standards staff will send a registered letter to the commenter noting the lack of response. The commenter's comments are then recorded as unresolved and circulated to the formulating group per the provisions of C.3.

All correspondence showing the formulating group's effort to address the comments, noting a lack of response when appropriate, shall be included in any package of materials provided to ANSI.

C.5 Results scenarios

Results scenario #1: If no comments are received after the close of public review, the document shall be forwarded to ANSI with a request for approval.

Results scenario #2: If editorial comments are received by the close of public review, the document editor, editing group, or chair shall address the comments. The document, with edits, if any, shall be forwarded to ANSI for approval.

Results scenario #3: If substantive comments are received from public review, the working group or formulating group shall review these comments, and attempt to resolve them, and notify each commenter of said action (see C.4), along with a notification of the JEDEC and ANSI appeals process.

- a) If no substantive changes are made, the document is forwarded to ANSI for approval.
- b) If substantive changes are made, the formulating group shall conduct a recirculation vote/ballot and "second" public review (see C.4).
- c) If negative, substantive comments remain unresolved from public review, the formulating group shall conduct a recirculation vote/ballot, and, if necessary, a "second" public review (see C.4).

Annex C (informative) ANSI Standardization Procedures (cont'd)**C.6 Voting on an American National Standard**

When a vote in a formulating group is for the purpose of approving a document for publication as an American National Standard, a Ballot Summary (Tally of votes) shall be prepared and included in the minutes. The Interest Category is normally self-selected by the voting member.

Action Required	Method (all calendar days)	Approval Criteria
Meeting Vote*	At the meeting	Two-thirds voting
Ballot	30 day ballot	Two-thirds voting
ANSI BSR8 (Public review)	Initial 60 day comment period [30 or 60 day subsequent comment period(s)] (or other ANSI designated time period where applicable)	Comments addressed by formulating group

* Voting members not present at the time of the vote shall be given the opportunity to vote on the standard after the meeting. The JEDEC staff shall notify the absent voting members via e-mail of any substantive changes made to the standard subsequent to the 21 day ballot period and advise that they have 7 days to cast their vote via the JEDEC Voting Machine. Any absent voting members that fail to respond shall be listed as No Response on the final submittal for approval to ANSI. Response to this opportunity to vote shall not be considered as attendance at the meeting for purposes of voting maintenance.

C.7 Legal approval

All ANSI/JEDEC standards shall receive JEDEC legal approval before publication.

C.8 ANSI approval

If ANSI/BSR is approved, responsible JEDEC Standards staff is notified and in turn publishes the document.

If ANSI/BSR does not approve, comment resolution issues will be dealt with by the formulating group and process-related issues will be dealt with by JEDEC Standards staff. If the ANSI/BSR comments are resolved and the document is approved, responsible JEDEC Standards staff publishes the document.

If the comments cannot be resolved, the document is returned to the formulating group for further resolution or cancellation. The formulating group may appeal the actions of the ANSI/BSR.

C.9 ANSI patent policy

If a JEDEC standard is intended for an American National Standard, then the standard must comply with the current ANSI patent policy.

C.10 Appeals panel (for an appeal of an ANS)

In the case of an ANSI appeal, the appeals panel shall consist of three individuals who have not been directly involved in the matter in dispute, and who (knowingly in good faith) will not be materially or directly affected by any decision made or to be made in the dispute. At least two members shall be acceptable to the appellant and at least two members shall be acceptable to JEDEC. In the event the appellant does not wish to select a panelist or a third panelist cannot be agreed upon, JEDEC shall appoint this individual to the panel in order to hold a hearing.

Annex C (informative) ANSI Standardization Procedures (cont'd)**C.11 ANSI Commercial Terms and Conditions**

Except as otherwise permitted by these Essential Requirements, ANS shall not include terms or conditions that are primarily contractual or commercial in nature, as opposed to technical, engineering or scientific in nature. Thus, for example, an ANS shall not include contractual requirements (C.11.1); endorse or require the use of proprietary products or services (C.11.2); or endorse or require the use of particular conformity-assessment bodies, testing facilities or training organizations (C.11.3).

C.11.1 Contractual Requirements

Except as provided below, ANS shall not include contractual requirements such as those relating to particular products or services, guarantees, warranties, reworks, indemnities, buybacks, price-related terms and other conditions of sale or use.

C.11.2 Endorsements of Proprietary Products or Services

ANS shall not endorse or require the purchase or use of proprietary products or service providers as a condition of implementing the standard. Proprietary in this context means products or services that are the property of an owner and cannot be obtained or recreated without the consent of the owner. For example, an ANS may not endorse or require the purchase or use of brand-name tools or components, licenses, manufacturer lists, service provider lists or copyrighted materials. However, for informational purposes, where known sources exist for products or services necessary to comply with the ANS, it is permissible, but not obligatory, to identify the sources (which may include a source's name and address) in a footnote, an annex, or reference to a website. The referenced products or services shall be reasonably available from the referenced sources, the words "or the equivalent" shall be added to the reference, and the reference shall also expressly state that identification of products or services is not an endorsement of those products or services or their suppliers.

C.11.3 Conformity Assessment, Testing and Training

In connection with ANS that relate to the determination of whether products or services conform to one or more standards, the process or criteria for determining conformity may be standardized as long as the description of the process or criteria is limited to technical, engineering or scientific concerns and does not include what would otherwise be contractual or commercial terms. It is permissible for health, safety, or environmental protection reasons to include a generic requirement for third-party, i.e., independent, conformity assessment, testing or training. ANS shall not dictate the use or non-use of a particular conformity-assessment body, testing facility or training organization. However, for informational purposes, where known sources exist for products or services necessary to determine compliance with the ANS, it is permissible, but not obligatory, to identify the sources (which may include a source's name and address) in a footnote, an appendix, or reference to a website. The referenced products or services shall be reasonably available from the referenced sources, the words "or the equivalent" shall be added to the reference, and the reference shall also expressly state that identification of sources is not an endorsement of those sources.

Annex D (informative) Differences between revisions

This annex briefly describes most of the changes made to entries that appear in this standard, JM21V, compared to recent prior revisions. If the change to a concept involves any words added or deleted (excluding deletion of accidentally repeated words), it is included. Some punctuation changes are not included.

D.1 Differences between JM21V and JM21U (December 2022)

Clause	Description of Change
1.4.2	In the 2 nd para., replaced “seat(s)” with “the application process” (JCB-23-29)
8.2.1	Added Task Group to terms and definitions, and added reference to task group in 8.2.2.1 (JCB-23-04)
10	Added subheadings 10.1 through 10.3 for existing text and added new text, and added new subheadings 10.4 and 10.5 with new guidelines for publicity (JCB-23-39)
12	Added new section “Sanctions for policy violations” (JCB-23-38)

D.2 Differences between JM21U and JM21T (September 2020)

Clause	Description of Change
1.4.2	Entire 1.4.2 replaced with new update (JCB-22-44)
4	Added second paragraph “Presentation and ballots shall...” (JCB-22-53)
7.2	Reworded c) and d) for clarity and added BoD approval sentence (JCB-21-65)
7.3.7	Added “and JTR” to document types and added NOTE in regard to IPC (JCB-21-66)
Annex C	C.11 updated opening paragraph and added C.11.1, C.11.2, and C.11.3 (JCB-21-26)
Annex C.1	1 st para., 1 st sentence, changed “affected persons” to “interested parties” (JCB-21-26)

D.3 Differences between JM21T and JM21S (November 2015)

Clause	Description of Change
1.4.4	4), Removed “within a calendar year” from 1 st sentence, removed “Participation via teleconference is allowed only once per calendar year” and replaced with “. It is the expectation that Directors attend all Board meetings, at minimum Directors must attend at least one face-to-face Board meeting, in person, each calendar year.” (JCB-19-27)
3.5	Quorum: Changed “20” to “12”. (JCB-19-04)
1.4.3.3	Changed to 1.4.3.4. (JCB-20-14)
1.4.3.3	New subclause added. (JCB-20-14)
8.2.1	New term and definition added for “Approval by the Committee”. (JCB-20-15)
8.2.2.2	4 th paragraph, last sentence, modified as follows: The sole remedy for any issues or concerns about deviations from approved scope shall be an appeal to the JEDEC Board of Directors made prior to Approval by the Committee, see 9.2. (JCB-20-15)
8.2.3	4 th paragraph, last sentence, modified as follows: Such disclosures or notices of known Potentially Essential Patents shall be delivered to the JEDEC Legal Department within thirty (30) calendar days of Approval by the Committee in order to be effective. (JCB-20-15)
8.2.3.1	1 st paragraph, modified as follows: ... reasonably possible but no later than thirty (30) calendar days after Approval by the Committee in the form of a Notice of Refusal to offer Licenses on RAND Terms, see Annex A.4. (JCB-20-15)

D.4 Differences between JM21S and JM21R (July 2015)

Clause	Description of Change
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3.4	2 nd para., 1 st sentence modified as follows: A JEDEC staff member or a designated alternate must participate in every committee meeting, either in person or by electronic means.
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